

T 861,042

## DEFENSIVE PUBLICATION

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Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

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### CURTAIN COATING PROCESS

Donald Eliseo Gonzalez, Newark, N.J., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

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Class 99—169

No Drawing. 12 Pages Specification

Process for curtain coating substrates or articles to prepare coated substrates or packaged articles employing a curtain coating composition having a melt viscosity at 375° F. of 10,000–125,000 cp. and comprising (a) 75–100 percent of an ethylene/vinyl acetate copolymer (55–95 percent ethylene/5–45 percent vinyl acetate) having a melt index of 66–825 g./10 min.; (b) 0–25 percent of a paraffin wax melting at 95°–160° F.; and (c) 0–20 percent of a mineral oil.

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## VESTOPLAST®

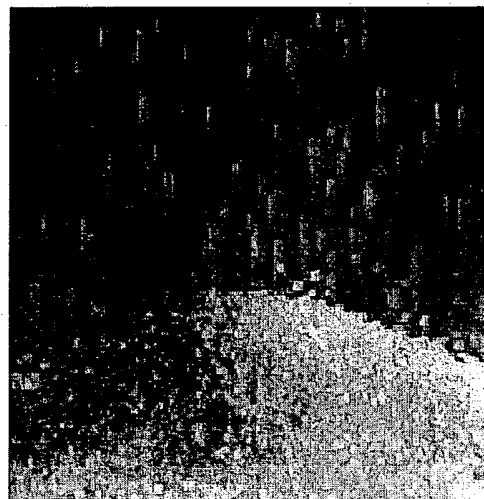
Amorphous Poly-alpha-olefins

Adhesive raw materials for hot melt applications

### Product Range

34.19.105e / 02.02

Propene-rich VESTOPLAST grades (page 1)  
Butene-rich VESTOPLAST grades (page 2)



Areas of application (page 3)



VESTOPLAST® = registered trademark of Degussa AG

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# Properties of VESTOPLAST

			VESTOPLAST Propene-rich							VESTOPLAST Silane modified			
Mechanical, thermal, caloric properties	Measurement method	Unit	703	704	708	750	751	792	828	888	891	206	
Melt viscosity at 190 °C	DIN 53 019, modified	mPa·s	2,700 ± 700	3,500 ± 500	8,000 ± 2,000	50,000 ± 10,000	50,000 ± 10,000	120,000 ± 30,000	25,000 ± 7,000	120,000 ± 40,000	115,000 ± 35,000	5,000 ± 1,000	
Softening point (ring & ball)	DIN EN 1427, modified	°C	124 ± 6	105 ± 5	106 ± 4	107 ± 4	99 ± 4	108 ± 4	161 ± 4	161 ± 5	162 ± 4	98 ± 4	
Needle penetration (100/25/5)	DIN EN 1426, modified	0.1 mm	12 ± 3	23 ± 5	19 ± 3	14 ± 3	25 ± 3	14 ± 3	22 ± 3	16 ± 4	22 ± 4	19 ± 3	
Thermal stability under load	Degussa method, similar to WPS 68 (5 °C/h, weight 450 g)	°C	75-80	70-75	85-90	85-90	70-75	90-95	95-100	115-120	105-110	n.d.	
Tear strength	DIN EN ISO 527-3, modified type 5	MPa	2.1 43	0.5 100	1.0 330	5.0 1,000	1.5 1,000	5.8 1,200	1.0 550	2.5 850	2.0 1,000	1.9 720	
Elongation at break		(former N/mm² %											
Shear modulus at 23°C	DIN EN ISO 6721-2	MPa	41	7.5	4	14	2	7	4	6.5	3	n.d.	
Molecular weight $M_n$ $M_w$	GPC, DIN 55 672, modified	g/mol	7,300 34,000	8,000 35,000	11,500 75,000	18,100 92,000	18,800 88,000	23,800 118,000	13,200 61,000	15,000 104,000	18,800 85,000	10,600 38,000	
Open time	Degussa method AA-CO-RE-AA-TS2-05	s resp. min	15 s	80 s	55 s	50 s	30 min	2 min 30 s	70 s	4 s	40 s	approx. 20 s	
Setting time	Degussa method AA-CO-RE-AA-TS2-29	s	1	1	1	1	1	1	1	1	1	approx. 6	
Glass transition temperature $T_g$	DSC analysis, DIN 53 765, modified Degussa meth. AN-SAA-0663	°C	- 28	- 36	- 33	- 33	- 33	- 27	- 35	- 36	- 33	- 28	
Density at 23 °C	DIN 53 479	g/cm³	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.86	0.87	
Shore hardness A	DIN 53 505	–	87	n. d.	67	75	43	n. d.	55	n. d.	n. d.	n. d.	

n. d.: not determined

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# Properties of VESTOPLAST

VESTOPLAST  
Butene-rich

Mechanical, thermal, caloric properties	Measurement method	Unit	308	408	508	520	608
Melt viscosity at 190 °C	DIN 53 019, modified	mPa·s	8,000 ± 2,000	8,000 ± 2,000	8,000 ± 2,000	22,000 ± 4,000	9,000 ± 3,000
Softening point (ring & ball)	DIN EN 1427, modified	°C	136 ± 6	118 ± 4	84 ± 4	87 ± 4	157 ± 4
Needle penetration (100/25/5)	DIN EN 1426, modified	0.1 mm	17 ± 3	5 ± 2	14 ± 3	14 ± 3	18 ± 3
Thermal stability under load	Degussa-Hüls method, similar to WPS 68 (5 °C/h, weight 450 g)	°C	65-70	85-90	60-65	65-70	60-65
Tear strength	DIN EN ISO 527-3, modified type 5	MPa	1.5	6.8	1.5	2.4	1.5
Elongation at break		(former N/mm²) %	500	80	340	80	480
Shear modulus at 23°C	DIN EN ISO 6721-2	MPa	14	70	12	7	11
Molecular weight M <sub>n</sub> M <sub>w</sub>	GPC, DIN 55 672, modified	g/mol	11,300 49,000	11,600 48,000	11,800 52,000	13,900 63,000	12,300 46,000
Open time	Degussa method AA-CO-RE-AA-TS2-05	s resp. min	4 min	65 s	15 min	15 min	3 min
Setting time	Degussa method AA-CO-RE-AA-TS2-29	s	1	1	3	1	1
Glass transition temperature T <sub>g</sub>	DSC analysis, DIN 53 765, modified Degussa meth. AN-SAA-0663	°C	- 29	- 27	- 31	- 29	- 32
Density at 23 °C	DIN 53 479	g/cm³	0.87	0.90	0.87	0.88	0.87
Shore hardness A	DIN 53 505	—	n. d.	94	74	76	76

n. d.: not determined

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# **VESTOPLAST areas of application**

## **Hot melt adhesives for**

- ◆ nonwoven and hygienic applications
- ◆ paper and packaging
- ◆ woodworking
- ◆ bookbinding
- ◆ structural adhesive
- ◆ textile applications

## **Bitumen modification for**

- ◆ waterproofing membranes
- ◆ road construction

## **Heavy coating compounds and hot melt adhesives for**

- ◆ pre-shaped car carpets
- ◆ loose laid carpet tiles
- ◆ cable filling
- ◆ road marking

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